

## The Importance of Shoulder Stabilization/Strength in the Development of a Swimmer

While Swimming is one of the healthiest of all competitive sports and almost injury free. one of our health issues is rotator cuff integrity. Much like pitchers in baseball, this is a critical area for swimmers. Fortunately it is very very rare today for even the most genetically challenged athlete to undergo surgery. About the worst that happens is that a swimmer has to back off from big training. And, with our knowledge today, it is rare that we lose any swimmer to training. In the past 10 years, only one swimmer has had to stop swimming in the CCSC due to rotator cuff problems and that athlete was very young and never trained in a senior program with lots of yards but just had unsound shoulders. Nevertheless, shoulder integrity is an issue for every senior swimmer and the right training must be done in order to avoid losing training time and being injury free.

Prior to reaching the National Group of the CCSC, most swimmers rarely have a problem with the rotator cuff area. If a swimmer is training about 5000 yards per workout with five sessions per week, and the usual breaks for vacations, holidays, illness, dentist appointments, meets, etc., that 25,000 yards per week is usually not going to lead to any problem. However, any senior swimmer, or swimmer preparing to compete at the Division 1 level, or reaching for high goals needs to slowly prepare to train as much as 80,000 yards per week and be consistently over 50,000 yards per week. This type of training requires more support in order that one remain healthy and this requires shoulder strengthening exercises. This usually requires two sessions per week at a young age and three sessions per week in the teenage developmental years. A good program can be done in 40 minutes, so we are asking the athlete to devote about 2 hours per week to this discipline.

Although we said above that we rarely have a problem at the Gold Group or X Group level of yardage, that doesn't mean the exercises can wait. Coach Kathy introduces some shoulder exercises in the Silver Group on her Saturday dryland session. Coach Ron continues to introduce exercises at the X and Gold level. This work begins to prepare the swimmers for the National Group. The 40 minute sessions that the swimmers can do at home( See The USA Shoulder Injury Prevention Booklet which you can get from the Club Office) can include the specific shoulder muscle exercises as well as the core strength exercises (the abdominal work) which is an integral part of the overall strength package and directly affects shoulder integrity while swimming. When a swimmer arrives at the National Group at age 12 or 13 or 14, that swimmer already has a good base. If that base is not there, we often see some aches and pains after the first year of serious training. We then need to back up and start again with the exercises and back off yardage. This can cost the athlete a year or more which can be crucial in the developmental process.

Many years ago when we had a swimmer with a chronic sore shoulder, our approach was to send that swimmer to an orthopedic doctor. The doctor would take a look at this young adolescent, 13-16 years old, and usually take the conservative approach. That approach was to say, "Well, we could go in with a knife, or X-Ray, but let's just rest it

for a few weeks and see what happens.” The young athlete would get depressed and be out of swimming for a while. Then, some time later, a month, 6 months, a year, the swimmer would be hurting again. The same cycle would be repeated and it was just accepted that this particular swimmer couldn’t train that well. The Doctor would call it “over-use”. He was partially right, but as the Doctor wasn’t that familiar with swimming, it was the wrong approach. In fairness, the swimming community didn’t have the answers either. Today we know that the swimmer really needed more work but a different kind of work. To say it was an over-use injury was not accurate because it leaves out the rest of the story. What is really going on is that as the swimmer trains harder and increases the strength of the swimming muscles, those muscles begin to pull the shoulders forward. If the swimmer is susceptible to such an injury, as the ball of the shoulder joint pulls forward out of the socket (the rotator cuff) those joints can begin to rub against a tendon or ligament causing bursitis or tendonitis commonly known as swimmer’s shoulder. The Doctor would call this an over-use injury and prescribe rest. As we said above, rest just begins a cycle of feeling shoulder pain each time the swimmer gets back into serious training. The tough thing about those injuries was that it was often the hardest working, strongest swimmer that got injured. It was not because of over-use in an of itself but more because of the increased strength of the swimming muscles pulling the shoulder joint out of line without the proper compensating work to hold the shoulders in a healthy alignment. This compensating work cannot be done in the water. The solution was not rest but a base work of shoulder exercises that increased with intensity and duration and sophistication as the intensity of the training increased. A parallel program was needed and it only took two hours per week to make it effective!

A few years ago USA Swimming convened a panel of the best experts, doctors, fitness gurus, trainers, and came up with a similar reasoning to the above along with a starter booklet, called “Shoulder Injury Prevention-A Special Booklet for the Uninjured Swimmer”. Every young swimmer should be introduced to this booklet. If you don’t have one, please call the office and we’ll send you one. We gave one to every swimmer in the Club about two years ago. Over the past ten years I have gained lots of insight into the “swimming shoulder problem” and we have worked very hard at developing training to be the healthiest possible training for the shoulder area. During this time I had the good fortune of finding Jeff Handler, a personal trainer in Hyannis who I feel is terrific with swimmer’s shoulders and posture. He has a sense of the work we do as he has worked with our best swimmers for 10 years. He is competitive. But, most importantly, he has an understanding of what is going on in the shoulder and what the swimmer needs to be supported and stay in training. My knowledge and growth in this area coupled with Jeff’s expertise has made us a successful team to support our athletes and give them confidence.

Jeff has had a regular group of National Group Swimmers(more than half the group) at a Monday, Wednesday dryland session for the last ten years. The group not only adds fun to the sessions but helps in a practical way with commuting and cost efficiency. Those swimmers working with Jeff have had great success in my training program and as I’ve grown to appreciate this support to our training, I have planned my training regimen to compliment Jeff’s Monday, Wednesday sessions. In addition, I have grown in my

confidence and appreciation of Jeff's work so that I consider him as another Coach in our program. He has a different perspective on the athleticism and competitive spirit of our swimmers with good insightful comments as to how one can get faster.

The athlete has to be motivated to take care of this area and learn how to use his/her support team of Coach and trainer to make sure the job is done correctly. But, if budget is a major issue, I believe the athlete can be successful in this area by seeing Jeff once per month for a "check-up" on technique and do the exercises at home. However, the main thing I hear from our most dedicated and mature swimmers is that the motivational aspect of going to the personal trainer makes a huge difference in intensity. And, having that knowledgeable person present gives the swimmers the ability to be very intense and "feel the burn" of the exercises. As the young person develops that relationship with Jeff, he learns how to best support them in their training. As an additional benefit, he helps them to think of themselves as athletes with a complete training regimen including good diet.

The bottom line, though, is that the shoulder exercises support the work we do in the pool. Those exercises are indispensable to our program; they require self-motivation, and are mostly done outside of the vision of the Coach. Thus, a self-directed swimmer is required along with family support.